

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1-39. Canceled)

40. (New) A broadcasting service system for enabling the reception of television broadcasts via a mobile cellular telephone terminal, comprising:

a converting means for converting a television broadcast signal into a video and audio signal in a format compatible with a signal and transmission standard of a mobile cellular telephone network; and

a transmitting means for transmitting the thusly converted video and audio signal to a mobile cellular telephone network subscriber via a transmission channel of the mobile cellular telephone network.

41. (New) The broadcasting service system according to claim 40, wherein the television broadcast signal complies with a first signal standard for television broadcasting, the converted digital video and audio signal formats compatible with the mobile cellular telephone network comply with a second signal standard, and the first and second signal standards agree with a signal standard which is capable of converting between different transmission systems.

42. (New) The broadcasting service system according to claim 41, wherein the first signal standard is the MPEG-2 (Moving Picture Experts Group 2) standard, and the second signal standard is one of the MPEG-4 (Moving Picture Experts Group 4), H.26L, H.263, and H.26X standards.

43. (New) The broadcasting service system according to claim 40, wherein the converting means comprises a transcoder which includes a decoding means which decodes digital video and audio data complying with a digital television broadcasting standard and then encodes the thusly decoded video and audio data into a format compatible with transmission over a communication channel of the mobile cellular telephone network, and a converting-controlling means which controls an encoding

rate of the transcoder to comply with a transmission rate of the mobile cellular telephone network.

44. (New) The broadcasting service system according to claim 40, wherein the converting means includes a digital signal converting means which converts an analog television broadcast signal into digital video and audio data, an encoding means which formats the thusly converted digital video and audio data and encodes it for compatibility with the transmission standard of the mobile cellular telephone network, and a converting-controlling means which controls an encoded data rate of the encoding means in order to agree with a transmission rate of the mobile cellular telephone network.

45. (New) The broadcasting service system according to claim 44, wherein the transmitting means includes a means for putting the formatted digital video and audio signal onto a transmission channel of the mobile cellular telephone network, and a formatting-transmission means which formats and transmits the digital video and audio data with additional broadcasting information.

46. (New) The broadcasting service system according to claim 45, wherein EPG (Electronic Program Guide) data is formatted and transmitted with the video and audio data and additional information.

47. (New) The broadcasting service system according to claim 40, wherein the transmitting and converting means transmits data through a connected transmission channel between a mobile telephone subscriber terminal and a base station of the mobile cellular telephone network.

48. (New) The broadcasting service system according to claim 40, wherein the converting and transmitting means allots at least one transmission channel on the mobile cellular telephone network, and transmits the video and audio signal through the allotted transmission channel.

49. (New) The broadcasting service system according to claim 40, further comprising:

an identifying means for identifying a subscriber who has subscribed to reception of such broadcasting service among all subscribers of the mobile cellular telephone network, and

a payment demanding means for demanding payment corresponding to reception of the video and audio signal by the identified subscriber.

50. (New) A mobile telephony terminal, comprising :

a digital video and audio data reception means for receiving digital video and audio data through a transmission channel of a mobile cellular telephone network;

a decoding means for decoding the received digital video and audio data ; and

an outputting means which outputs the decoded video and audio signal for display and audio reproduction.

51. (New) The mobile telephony terminal according to claim 50, wherein the mobile cellular telephone terminal includes a receiving-decoding means which receives and decodes an EPG (Electronic Program Guide) signal from a converted television broadcast signal transmitted through the mobile cellular telephone network, and a transmitting means which transmits a television channel selection request based upon the decoded EPG data to the mobile cellular telephone network.

52. (New) The mobile telephony terminal according to claim 50, wherein the mobile telephony terminal is one of a cellular phone, a PCS (Personal Communication System) terminal, or an IMT-2000 terminal.

53. (New) The mobile telephony terminal according to claim 53, wherein the mobile telephony terminal includes a web browser means for searching the EPG data and additional information transmitted from the mobile cellular telephone network.

54. (New) A broadcasting service system using a mobile cellular telephony terminal, comprising :

a digital video and audio input means which is provided a digital video and audio signal from a provider;

a transcoding means which converts the provided digital video and audio signal inputted from the digital video and audio input means into a format and transmission rate compatible with transmission over a transmission channel of the mobile cellular telephone network ; and

a transmitting means which transmits the thusly transcoded-converted digital broadcasting signal on an allotted channel of the mobile cellular telephone network.

55. (New) The broadcasting service system according to claim 53, further comprising:

an EPG (Electronic Program Guide) data converting means for converting EPG data for selecting a digital television broadcasting channel into a format compatible with transmission over the mobile cellular telephone network, and

an additional information converting means for converting the additional information of the digital television broadcasting channel into a format compatible with transmission over the mobile cellular telephone network.

56. (New) The broadcasting service system according to claim 54, wherein the broadcasting service system transmits the EPG (Electronic Program Guide) data and additional information in compatible formats for the mobile cellular telephone network.

57. (New) The broadcasting service system according to claim 54, wherein the EPG (Electronic Program Guide) data converting means comprises:

a decoding means for decoding an inputted EPG (Electronic Program Guide) data stream of a digital television broadcasting signal;

a restoring means for restoring the EPG data of the decoded data stream;

a database means which stores information corresponding to the restored EPG data;

an EPG information outputting means for outputting EPG information from the database corresponding to a mobile cellular telephone network subscriber request; and

a converting means for converting the additional information of the digital television broadcasting signal into a format compatible with transmission via the mobile cellular telephone network.

58. (New) A broadcasting service system for enabling the reception of television broadcasts by a mobile cellular telephone subscriber terminal, comprising:

a digital signal processing means for receiving a digital television broadcasting signal and providing a television broadcasting program to a mobile cellular telephone network ;

a medium storing means for storing broadcast information processed by the digital signal processing mean ;

a data processing and converting means for converting EPG (Electronic Program Guide) data and additional information of the digital television broadcasting signal processed by the digital signal processing means into a signal format compatible with transmission via the mobile cellular telephone network ; and

a transcoder and transmission mean for receiving video and audio data and additional information processed by the digital signal processing means, converting them into a signal format compatible with transmission over the mobile cellular telephone network and transmitting the thusly converted data and information over a transmission channel of the mobile cellular telephone network.

59. (New) The broadcasting service system according to claim 58, wherein the digital signal processing means comprises:

a tuner for selecting a digital television broadcasting signal carried on a transmission medium such as terrestrial television broadcasting, satelite broadcasting and cable broadcasting;

a demodulating means for restoring the selected digital television broadcasting signal;

a demultiplexer for fetching EPG (Electronic Program Guide) and additional information from the demodulated digital television broadcasting signal; and

a decoder for decoding the video and audio data from the demodulated digital television broadcasting signal.

60. (New) The broadcasting service system according to claim 58, wherein the data processing and converting means comprises:

an EPG (Electronic Program Guide) data decoding means for decoding EPG (Electronic Program Guide) data of the digital television broadcasting signal;

a signal converting means for converting the decoded EPG data into a signal format compatible with transmission over the mobile cellular telephone network;

a protocol converting means for converting the converted EPG data into a protocol compatible with the mobile cellular telephone network;

a decoding means for decoding the additional information of the digital television broadcasting signal;

an additional information signal converting means for converting the decoded additional information into a format compatible with transmission over the mobile cellular telephone network;

an additional information protocol converting means for converting the converted additional information into a protocol compatible with the mobile cellular telephone network.

61. (New) The broadcasting service system according to claim 58, wherein the transcoder and transmission means comprises:

a transcoder for transcoding video and audio data of a digital television broadcasting signal into a format compatible with transmission over a transmission channel of the mobile cellular telephone network;

a transmission rate control means for controlling a transmission rate of the transcoder to comply with the transmission channel of the mobile cellular telephone network;

a converting means for converting the output of the data processing and converting means into a data protocol agreeable to the mobile cellular telephone network;

a synchronization processing means for synchronizing synchronization request information during the transcoding and protocol converting operations; and

a transmitting means for transmitting the processed data in real time by allotting it a transmission channel of the mobile cellular telephone network.

62. (New) A broadcasting service method for enabling the reception of television broadcasts by a mobile cellular telephone subscriber terminal, comprising:

converting a broadcast television signal including digital video and audio data into a format compatible with a signal and transmission standard of a mobile cellular telephone network; and

transmitting the converted digital video and audio data to a subscriber of the mobile cellular telephone network through a certain transmission channel of the mobile cellular telephone network.

63. (New) The method according to claim 62, wherein the converting step comprises:

(a) converting the video and audio data of the digital television broadcasting signal into data compatible with the transmission standard and transmission rate of the mobile cellular telephone network; and

(b) converting EPG (Electronic Program Guide) data and additional information of the digital television broadcast signal into information compatible with the transmission standard and transmission rate of the mobile cellular telephone network.

64. (New) The method according to claim 62, wherein the transmission step comprises:

(a) synchronization-controlling synchronization request information of the converted digital video and audio data as well as EPG (Electronic Program Guide) data and additional information of the digital television broadcast signal;

(b) converting the EPG data and additional information into a protocol compatible with the mobile cellular telephone network; and

(c) allotting a transmission channel of the mobile cellular telephone network and putting the digital data compatible with the protocol of the mobile cellular telephone network on the transmission channel.

65. (New) A broadcasting service method for enabling the reception of television broadcasts by a mobile cellular telephone subscriber terminal, comprising:

transmitting EPG (Electronic Program Guide) data to a subscriber's mobile cellular telephone subscriber terminal through said mobile cellular telephone network when there is a broadcasting service request from the subscriber ;

selecting, by the subscriber, of a broadcast television channel by searching the EPG data received at the subscriber's mobile cellular telephone subscriber terminal;

converting video and audio contents of the selected broadcast television channel into digital data compatible with a transmission standard of the mobile cellular telephone network; and

transmitting the thusly converted data to the subscriber through a transmission channel of the mobile cellular telephone network.

66. (New) The method according to claim 65, wherein a right for viewing digital television broadcasting is granted to the subscriber, and the EPG information is provided to the subscriber after confirming and certifying of the subscriber's viewing right.

67. (New) The method according to claim 65, wherein an ID (identification) is granted to the subscriber, and payment for viewing of a digital television broadcasting service is required of the subscriber by identifying the subscriber's ID.

68. (New) The method according to claim 66, wherein an ID (identification) is granted to the subscriber, and a payment for viewing of a digital television broadcasting service is required of the subscriber by identifying the subscriber's ID.

69. (New) A broadcasting service system, for enabling the reception of television broadcasts by a mobile cellular telephone subscriber terminal, comprising :

an analog television broadcasting reception means for receiving an analog television broadcasting signal ;

a digital converting means for converting the received analog television broadcasting signal into digital data;

an encoding-converting means for encoding the digital data converted by the digital converting means into a format compatible with transmission over a transmission channel of a mobile cellular telephone network; and

an allotting-transmitting means which allots the encoded digital data from the encoding-converting means a certain transmission channel of the mobile cellular telephone network and transmits said data on said allotted channel.

70. (New) The system according to claim 69, further comprising:

an EPG (Electronic Program Guide) signal and additional information extracting means for extracting an EPG signal and additional information from a received television broadcast signal; and

an encoding-converting means for converting the extracted EPG (Electronic Program Guide) signal and additional information into a signal format compatible with the mobile cellular telephone network.

71. (New) The system according to claim 69, wherein the encoding-converting means encodes the digitally converted analog television broadcasting signal into a format compatible with transmission over the mobile cellular telephone network among formats including MPEG-4 (Moving Picture Experts Group 4), H.26L, H.263

and H.26X, and puts the thusly formatted signal onto the allotted transmission channel.

72. (New) The system according to claim 70, wherein the encoding-converting means encodes the digitally converted analog television broadcasting signal into a format compatible with transmission over the mobile cellular telephone network among formats including MPEG-4 (Moving Picture Experts Group 4), H.26L, H.263 and H.26X, and puts the thusly formatted signal onto the allotted transmission channel.

73. (New) A mobile cellular telephone subscriber terminal, comprising :
a broadcast reception means for receiving a television broadcast signal;
a communication processing means for receiving a call signal provided to the subscriber through the mobile cellular telephone network and restoring-outputting the call signal, and encoding-transmitting a subscriber call signal through the mobile cellular telephone network;
a decoding means for restoring the television broadcast received by the broadcast reception means;
an outputting means for outputting the restored television broadcast from the decoding means for viewing on the mobile cellular communication subscriber terminal; and
a selecting means for selecting among a broadcast reception mode and a mobile telephone call mode.

74. (New) The terminal according to claim 73, wherein the broadcast data reception means includes an antenna and a tuner, the decoding means includes a demodulation means for demodulating video and audio signal components of a received television broadcast signal, and the outputting means includes a speaker for outputting the demodulated audio signal and a display for displaying the demodulated video signal.

75. (New) The terminal according to claim 73, wherein the broadcast reception means includes a bit stream reception means for receiving a bit stream of a digital television broadcasting signal, the decoding means includes a demodulation and restoring means for demodulating video and audio data of the digital television broadcasting signal and restoring the demodulated video and audio data, the outputting means includes a speaker for outputting the restored audio signal and a display for displaying the restored video signal.

76. (New) The terminal according to claim 73, wherein the terminal is one of a cellular phone, PCS (Personal Communication System) terminal or IMT-2000 terminal.

77. (New) The terminal according to claim 74, wherein the terminal is one of a cellular phone, PCS (Personal Communication System) terminal or IMT-2000 terminal.

78. (New) The terminal according to claim 75, wherein the terminal is one of a cellular phone, PCS (Personal Communication System) terminal or IMT-2000 terminal.

79. (New) A method for providing a television broadcast reception service over a mobile telephone network, comprising:

at a mobile telephone subscriber's terminal, requesting television broadcast reception service from a mobile telephone network;

at the mobile telephone network, verifying whether the requesting subscriber is entitled to receive television broadcast reception service, and, if so verified, granting access to the requesting subscriber and opening a transmission channel on the mobile telephone network for the provision of television broadcast reception service to the subscriber and also requesting the provision of EPG (Electronic Program Guide) data from a television broadcast format converter;

at the television broadcast format converter, in response to the request from mobile telephone network, supplying to the mobile telephone network the requested EPG data from a broadcast television signal;

at the mobile telephone network, upon provision of the requested EPG data by the format converter, transmitting the EPG data to the mobile telephone subscriber's terminal;

at the mobile telephone subscriber's terminal, receiving the transmitted EPG data and sending a request to the mobile telephone network for selecting a desired broadcast television channel for viewing;

at the mobile telephone network, in response to the television channel selection request from the mobile telephone subscriber's terminal, requesting the provision of video and audio program data of the selected broadcast television channel from the format converter;

at the format converter, in response to said request from the mobile telephone network, supplying the video and audio data of the selected broadcast television channel to the mobile telephone network in a format which is compatible for transmission over the mobile telephone network;

at the mobile telephone network, transmitting the video and audio data of the selected broadcast television channel supplied from the format converter to the mobile telephone subscriber's terminal on the opened transmission channel; and

at the mobile telephone subscriber's terminal, receiving and decoding the video and audio data of the selected broadcast television channel transmitted from the mobile telephone network, for viewing and listening to a broadcast program of the selected broadcast television channel on the mobile telephone subscriber's terminal.